increasing demand, security, and government transformation goals. The Department's initial charge included centralizing IT policy-making, unifying strategic information technology planning; improving information, project, and systems management; managing enterprise projects; consolidating infrastructure and application development; and addressing enterprise security needs. The enterprise level "Secure Michigan" approach provides a consistent, integrated approach across all departments and makes individual agencies less vulnerable.

- Michigan's Department of Information Technology (MDIT) has among the broadest, most centralized set of IT policy, management and operational set of functions of all the states. This ensures a broad spectrum of input into the HISPC process by MDIT representatives.

- The Office of Technology Partnerships, whose director is on the FCC project management team, is one of the few such IT functions within state IT agencies. The Office was created to foster collaboration and partnerships with business, K-12, health care, universities, non-profit organizations, associations, and local units of government. This ensures full authority and capability in reaching out and engaging the HISPC partner communities.

- The Michigan IT Strategic Plan, which includes security and privacy initiatives as well as health IT initiatives, is fully aligned with the Cabinet Action Plan – a statewide strategic plan. Agency business plans, such as those of the Department of Community Health, are also integrated in the CAP. MDIT policy and planning staff support the development of this plan, and a representative is a part of the HISPC project management team.

- Participation and oversight of the MiHIN *Conduit to Care* report, helping define the roles the state can and should play to improve the quality and affordability of health care by advancing the adoption of health information technology (HIT) and promoting regional health information exchange (HIE).

The Michigan Health Information Technology (HIT) Commission

The HIT Commission serves as an advisory body to MDCH for health information technology implementation. The Commission, created by PA 137-06, has 13 members that represent major stakeholders in Michigan's health care sector and were appointed by Governor Jennifer M. Granholm. Eight of the thirteen commissioners served as chairpersons and volunteers for several of the workgroups for the MiHIN *Conduit to Care* report. The Commission's mission is to facilitate and promote the design, implementation, operation, and maintenance of an interoperable health care information infrastructure in Michigan. The Commission will assure that the development of this program is consistent with the state's strategic directions; fostering the development of health information technology and health information exchange.

The Michigan Health Information Exchange (HIE) Resource Center

The creation of the Michigan HIE Resource Center was a recommendation of the MiHIN *Conduit to Care* report. Established by MDCH in response to this recommendation, the HIE Resource Center will support the State of Michigan's role as convener and collaborator for health information exchange initiatives, including the development of Regional Health Information Organizations (RHIOs), along with inter-regional data exchange. This centralized body will have the ability to bring different regional exchange initiatives together by providing parameters, guidelines and support, and bridging gaps between regional efforts that are in various stages of development. The Michigan HIE Resource Center will promote sustained efforts to: 1.) build governance structures; 2.) coordinate national, state, and local efforts; 3.) promote education; 4.) foster collaboration among stakeholders; 5.) raise consumer awareness, and 6.) develop financial and human resources. The Resource Center is funded by the MDCH, and staffed by MPHI, and Michigan State University. The HIT Commission will serve as part of the Resource Center's Advisory Board, ensuring that Michigan has a consistent and collaborative state-wide approach.

For the pilot program, the resource center will expand its scope to include coordination of project activities with each of the MTAs, and with parallel health information exchange initiatives. By utilizing the resource center, the project will be able to effectively integrate regional health information needs with the ongoing design and development of the Michigan FCC Pilot Program Collaborative Team.

The Michigan Public Health Institute (MPHI) – the organization that will be legally and financially responsible for the conduct of activities supported by the fund

The FCC funded pilot program will be administered by MPHI, a not-for-profit research and development organization, with a history of impartiality. MPHI complies with all state and Federally accounting regulations, as well as submitting to a voluntary, annual, third-party audit and up to four additional audits, as called for by funders per calendar year. MPHI maintains staff to oversee Quality Assurance throughout the Institute, as well as maintaining an active IRB. MPHI will serve as the applicant agency and be legally and financially responsible for the conduct of the project.

MPHI is a Michigan non-profit 501(c)(3) corporation authorized under Public Act 264 of 1989 as a cooperative venture of the State of Michigan Department of Community Health, University of Michigan, Michigan State University and Wayne State University, to plan, promote and coordinate all facets of health care services. MPHI frequently acts as an agent of the State of Michigan, and currently administers a number of health information technology initiatives on its behalf. The MPHI board of directors is chaired by the MDCH Director, or the Director's representative.

MPHI was part of the Executive Leadership team for the MiHIN *Conduit to Care* report. As a trusted and impartial facilitator, MPHI will bring together the diverse groups for the good of the mission. By strictly adhering to the values of collaboration, excellence in service, neutrality, and integrity, MPHI will convene stakeholders and facilitate the work toward common objectives. MPHI has earned its role of trusted mediator due to their long record of high quality, impartial work in complex, politically-charged environments.

Michigan State University (MSU)

Michigan State University has been advancing knowledge and transforming lives through innovative teaching, research and outreach for more than 150 years. MSU is known internationally as a major public university with global reach and extraordinary impact. MSU is a member of the Association of American Universities, the National Association of State Universities and Land-Grant Colleges, and the Big Ten athletic conference. It is home to two medical colleges, a nursing college and College of Communication Arts and Sciences, all with expertise in telemedicine.

The Michigan FCC Project Advisory Committee

The Michigan FCC Project Advisory Committee is a statewide initiative, organized by the State of Michigan to build a statewide, broadband based, network for telemedicine and telehealth services. The FCC funded Project will provide critical resources to support the Michigan FCC Project Advisory Committee's goal of interconnecting Michigan's numerous regional telemedicine networks and extending broadband access to telehealth/telemedicine services to rural and underserved areas of the state.

The Michigan FCC Project Advisory Committee is supported by the Michigan Department of Community Health (MDCH) and the Michigan Department of Information Technology (MDIT). Both MDCH and MDIT will provide executive sponsorship, matching funds, and strategic direction to the network, ensuring that the State's shared vision for Health Information Exchange and Health Information Technology remains consistent.
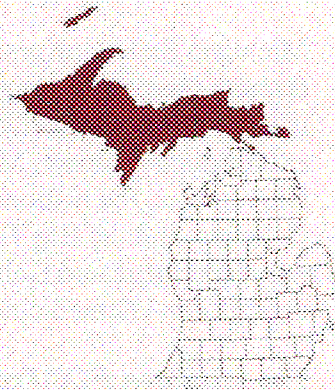
Stakeholders

Medical Trading Area Representatives

Each Medical Trading Area will be represented on the Advisory Committee to ensure that the needs of each area are addressed.

Upper Peninsula MTA

(Average RUCA for sites to be connected: 6.1)

- **Local geography**: The Upper Peninsula or "U.P." as it is called among Michiganians contains almost one-third of the land area of the State, but a mere three percent of the population. In addition, this northern portion of the state is about one third forests and government owned land, including the Hiawatha and Ottawa National Forests. The Upper Peninsula is bordered by three bodies of water; on the north by Lake Superior on the east by St. Mary's River on the south by Lake Michigan and Lake Huron and on the west by Wisconsin.

- **Regional economy**: Winters in the Upper Peninsula, due in part to the northern latitude, tend to be long, cold and snowy. Average snowfalls can be in excess of 100 inches per year. Despite these winters, tourism remains the predominant industry. Winter sports such as, skiing, snowboarding and snowmobiling are popular, and activities such as camping, hiking, boating and fishing contribute to the draw if the U.P. Logging and mining have been the historical industries of the area, but currently operate on a smaller scale than they once were.

- **Scandinavian influence**: The Upper Peninsula has the largest Finnish population outside of Europe. With the close proximity to Ontario, residents of the Upper Peninsula are also known for their distinct dialect.

- **Current HIE landscape**: Marquette General Hospital, a Federally designated Regional Referral Center and a vital part of the Marquette General Health System (MGHS), the area's largest health care services provider. Marquette General is the region's Level II Trauma Center as verified by the American College of Surgeons Committee on Trauma, and is also one of the 100 Top Cardiovascular Hospitals in 2006 as designated by Solucient®, a leading information products company serving the health care industry.

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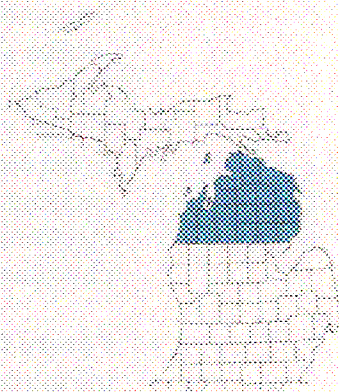
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The Upper Peninsula Telehealth Network (UPTN), based at Marquette General Hospital, provides core services in professional education, clinical consultations, administrative meetings, telehome care systems, community education and video conferencing services for community groups and businesses. Teleradiology, telepathology and telepharmacy are active telemedicine applications in the region. Other support functions include administration of the multipoint control unit (bridge), communication and coordination among network members, advocacy for advancement on telehealth policy and telemedicine reimbursement, technical assistance, educational programming, grant administration and promotion of telehealth applications.

- **Future Goals**: To increase capacity (bandwidth) at an affordable price for telehealth and information technology applications.

Northern Lower Peninsula MTA

(Average RUCA for sites to be connected 8. 0)

- **Local geography**: The Northern Lower Peninsula consists of 21 rural counties in Michigan's "Tip of the Mitt". According to the 2000 U.S. Census, 497,120 rural residents live in the region (although that number increases during the summer months due to the significant number of summer part-time residents). The Northern Lower Peninsula is bordered by two Great Lakes: Lake Michigan on the west and north, and Lake Huron on the north and east. The thirteen not-for-profit hospitals serving this region are designated as Rural Referral Centers, Sole Community Hospitals or Critical Access Hospitals. Many hospitals in the region are located in a coastal community which significantly limits the population base for services since 50% of the hospitals' service area circumference is water.

- **Regional economy**: Northern Lower Michigan's major economies are the health care sector, tourism and agriculture. Rural hospitals in the region are generally the largest or second largest private sector employer, providing 30,964 direct, indirect and induced health care jobs in the 21 county region. Wages, salaries and benefits for these jobs total $1.24 billion. Tourism is also an economic driver in the region. Northern Lower Michigan is a second home for many part-time summer residents from throughout the Midwest who enjoy spending time on or near the Great Lakes or one of many inland lakes in the region. In the winter, visitors enjoy skiing, snowboarding, and snowmobiling

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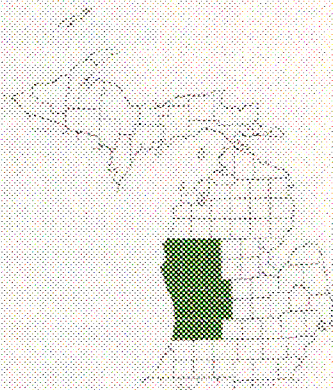
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throughout the region. Agriculture is also important to the local economy. Traverse City and Leelanau County, located in the little finger of Michigan's Mitt, is considered the Cherry Capital of the World due to the significant cherry crops produced in the region.

- **Current HIE landscape**: The hospitals in Northern Lower Michigan recognize the importance of exchanging clinical data among hospitals and physician providers in the region. In 1998/99, the hospitals engaged a consultant to plan for a Regional Health Information Network to exchange clinical data. Due to circumstances of financing and the readiness of products on the market, the initiative did not move beyond the planning process. Currently, the three Federally designated Rural Referral Centers in Northern Lower Michigan are in varying stages of health information exchange and technology *within* their local communities. It is estimated that over five hundred physicians in northern Michigan have access to an electronic health record associated with one of the three RRCs, but they do not have access to clinical data from other hospitals. Munson Health care, based in Traverse City, and its five affiliated hospitals share the same health information exchange. Munson Health care also exchanges patient data with many physician offices via interfaces or remote access from any internet accessible PC to the electronic health record. Northern Michigan Hospital in Petoskey exchanges patient data with physicians using interfaces and access to an electronic health record. Alpena Regional Medical Center allows physicians access to their electronic health record via remote access.

- **Future Goals**: To implement a health information exchange infrastructure to improve the quality of care in rural Northern Lower Michigan by enabling the movement of health care information electronically across health systems, physician offices, Federally qualified clinics and community health centers, public health agencies and other health care providers in the region.

Western MTA

(Average RUCA for sites to be connected 4.6)

- **Local geography**: The Western MTA is about 8,100 square miles. The Grand Rapids-Muskegon-Holland area is the urban core. In addition, there are 383 lakes, 11 covered bridges, along with state and national forests throughout the rural counties.

- **Regional economy**: The area enjoys four

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season tourism. Part-time residents populate the rural areas, which feature numerous resort communities. Boating on inland waters and on the Lake Michigan attracts numerous tourists as does camping, hunting and fishing, skiing, snowmobiling. In addition to tourism, the area enjoys significant manufacturing employment, with concentrations of office furniture manufacturers, auto industry suppliers and a diversified range of other industries. The largest employer in the region is the Spectrum Health system.

- **Current HIE landscape**: The MTA has 27 hospitals ranging from tertiary care facilities of the Grand Rapids Spectrum Health facilities to several critical access hospitals in the rural communities. Several Federally-qualified health clinics serve the area as do several migrant health programs, public health and hospital-sponsored clinic programs, and numerous privately sponsored programs. Emergency services, behavioral health services and occupational health programs also are found throughout the area.

- **Future Goals**: This area is coordinated by the Alliance for Health, a nonprofit West Michigan organization, working to improve health, improve access, improve quality and improve the cost effectiveness of the health care system.

Southwestern MTA

(Average RUCA for sites to be connected 4.4)

- **Local geography**: Southwestern Michigan is bordered by Lake Michigan, the majestic Warren Dunes to the west and rolling farm lands, inland waterways and vineyard as you move eastward through the regions.

- **Regional economy**: Major employers in the region are Pfizer, Kellogg, Post and Western Michigan University. The three metropolitan areas in the region are Battle Creek, and Kalamazoo-Portage-and Benton Harbor-St Joseph.
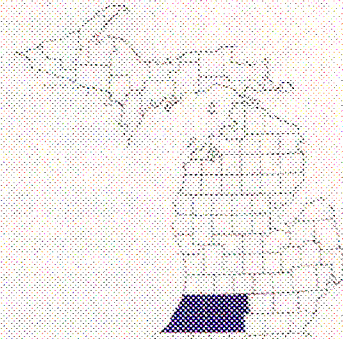
  Economic predictions include that 2007 will be a year of sluggish employment growth for the region. Part of the reason is that the region's manufacturing sector continues to make necessary productivity improvements, which limit hiring. Of course, this is happening nationwide, and it enables manufacturers to compete in a harsh global marketplace. Still, because of the region's high concentration in manufacturing activity, the emphasis on productivity improvements will

by itself guarantee that employment in the region will grow more slowly than the national rate.

- **Current HIE landscape:** Borgess Health System has used computer and video networks to perform administrative tasks, consult with patients via videoconferencing and offer education from a distance. The Borgess Virtual Intensive Care Unit also enables nurses to view intensive-care patients in various units through computer screens. The technology allows nurses to zoom in on a patient's face or examine monitors in the room. They also can check patients' test results, medications and vital signs.

  Borgess has been successful in obtaining funding in 2002 from the USDA Rural Utilities Service Distance Learning & Telemedicine grant in the amount of $368,183. In 2003, over $500,000 from the Office of Rural Health Policy Outreach and again from the USDA Rural Utilities Service Distance Learning & Telemedicine grant. In 2004, $199,957 from the Office of Rural Health Policy Outreach Grant in the amount of $199,957 and in 2005 over $500,000 from Office of Rural Health Policy Outreach Grant and the USDA Rural Utilities Service Distance Learning & Telemedicine and in 2006, Borgess received $218,000 in grant funding from the USDA Rural Utilities Service Distance Learning & Telemedicine. In addition, participants in the Southwest FCC Pilot Program Collaborative/VICU projects have made commitments of $931,365 in matching contributions to these projects.

  Bronson has electronic health records that physicians can access online, and its Home Health Care division collects blood pressure, oxygen and weight data through devices that transmit the data through telephone lines.

- **Future Goals:** To develop a regional telehealth network throughout southwest Michigan that will allow sites to connect for purposes of distance learning programs and to provide clinical care using telehealth technology.

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Central MTA

(Average RUCA for sites to be connected 5.2)

- **Local geography**: Central Michigan is located in Michigan's lower peninsula, and encompasses 11 counties. The region consists mainly of farmland, with a few cities of moderate size.

- **Regional economy**: Central Michigan's economy is primarily agricultural, with the vast majority of its area consisting of the fertile Saginaw Valley. Major crops include corn, sugar beets, and soy beans. The largest company in the area is Dow Chemical, whose world headquarters is located in Midland. Central Michigan is also home to Central Michigan University, with a main campus in Mount Pleasant, Michigan, and more than 60 locations across the U.S. Michigan is also home to the Saginaw Chippewa Indian tribe.

- **Current HIE landscape**: The MiHIN process has prompted the creation of a regional health information exchange blueprint and opened the door to greater regional collaboration. Historically, each county has been very independent and not held any type of regional identity. Therefore, the early vision for the Central MTA is to leverage the individual organization's intellectual and technology assets by physically connecting the major health, educational, and economic resources with high bandwidth connectivity in support of broad telehealth capability. This includes aggregating resources for connectivity to the extremely rural locations so that greater collaboration can occur.

- **Future Goals**: The goals of this network emphasize health information services, educational activities and health informatics applications designed to improve access, efficiency and quality of health care information and services provided in targeted underserved and rural communities.
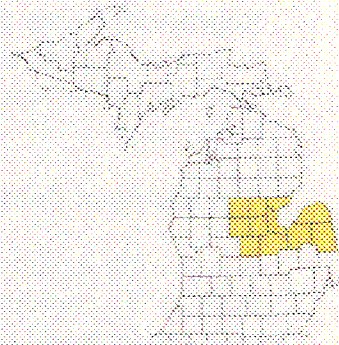
Midwest Alliance for Telehealth & Technology Resources (MATTeR)

MATTeR is a telehealth resource center funded by the Office for the Advancement of Telehealth/Health Resources and Services Administration. The mission of the center is to help organizations and communities create sustainable telehealth services, especially in rural and underserved communities. MATTeR leverages the expertise of Marquette General Health System, Michigan State University, and the Regenstrief Center for Health care Engineering at Purdue University and Kansas

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University Medical Center. Both Marquette General Health System and Kansas University Medical Center have demonstrated success in development and maintenance of extensive telehealth networks. Michigan State University and the Regenstrief Center facilitate research, evaluation and advocacy activities pertaining to communication technologies in health care and telemedicine. Services are available nationwide with individualized initiatives in Kansas, Indiana and Michigan.

The Michigan Center for Rural Health (MCRH)

A nonprofit organization based at Michigan State University (MSU), with the mission "To coordinate, plan, and advocate for improved health for Michigan's rural residents and communities." The MCRH plays a key role in rural health care by assisting in the creation and implementation among non-profit groups, health departments, hospital, private industry government and academia to create new opportunities in the areas of network development, quality of care, emergency medical services, continuing education, recruitment of health care providers, and sustainable economic development.

Michigan State University Institute for Health Care Studies

A unit within the College of Human Medicine (CHM), The Institute serves a unique role, facilitating and supporting collaborative relationships among CHM faculty and researchers throughout campus. These collaborative activities inform policymakers, state agencies, and others with a goal of improving health care delivery in Michigan. Our mission is to improve the health care available to Michigan residents through research, policy analysis, education and outreach, and support of quality improvement activities.

University of Michigan Health Systems

The University of Michigan Health System (UMHS) is the wholly-owned academic medical center of the University of Michigan in Ann Arbor. It includes the UM Medical School, with its Faculty Group Practice and many research laboratories, and the UM Hospitals and Health Centers unit, which includes University Hospital, C.S. Mott Children's Hospital, Women's Hospital, numerous outpatient clinics and centers, and the Michigan Visiting Nurses.

The medical center also includes the Michigan Health Corporation, through which UMHS partners with other medical centers and hospital to provide specialized care throughout Michigan. UMHS also partners with Blue Cross Blue Shield of Michigan in a joint venture called Michigan HealthQuarters, formed in 2007 as a center for health care quality research and transformation.

Michigan Osteopathic Association

One of the most important roles the Michigan Osteopathic Association plays in the state is serving as the voice of osteopathic physicians with the state legislature. On a daily basis, we also play a vital role in influencing health legislation and improving the quality of care in the state of Michigan. Medicaid funding, access to care and patient safety are just a few of the diverse issues we monitor. Annually, we host our annual Capitol House Call, which unites physicians, students and medical educators with representatives from their districts. In addition to our legislative activities, we also host one of the largest osteopathic continuing medical education conferences, the Annual Postgraduate Convention & Scientific Seminar. Each year more than 1200 physicians, students and osteopathic staff and educators attend this conference. Serving our members and improving health care in Michigan are top priorities for us. Along with the numerous activities conducted on behalf of the membership, we alongside our members, continue to serve on numerous state and national health committees dedicated to improving the quality of care in Michigan and the nation.

Michigan State Medical Society

The mission of the Michigan State Medical Society is to promote a health care environment that supports physicians in caring for and enhancing the health of Michigan citizens through science, quality, and ethics in the practice of medicine. MSMS is the physician's voice, the physician's strength and the profession's best advocate during medicine's most turbulent times. MSMS is about leadership for physicians and advocacy for patients. They understand that when policymakers consider issues affecting medical practice and patients, strong leadership must be at the table. Currently MSMS is at the forefront of a new passage in Michigan health care. Health care is at a crossroads--the status quo threatens everyone, including patients, payers and physicians. We know things need to change. We seek a more cohesive system down the road, and we are defining how to get there. We also provide vital linkages and support to the county societies and linkages to the AMA.

Michigan Primary Care Association

The Michigan Primary Care Association (MPCA) is a nonprofit corporation representing the organizational providers and affiliates of community-based primary care centers statewide. MPCA is an organization developed to promote, support and develop comprehensive, accessible and affordable, quality primary health care services to everyone in Michigan. It is a good first step toward obtaining affordable and accessible primary health care services in many of Michigan's communities. MPCA provides assistance to organizations seeking to establish a Community/Migrant Health Center or other primary care delivery model.

Michigan Health and Hospital Association

We are committed to becoming the most effective health care advocate in Michigan. In that role, we will promote better health within our communities; improve the quality of patient care; and improve coverage for high-quality, affordable health care services for all Michiganians. We will advocate for hospitals and the patients they serve; encourage professional education and scientific research regarding health care and the management of health care systems. To positively influence the development of health policy and to work cooperate with other organizations with purposes similar to those of the association. It is also our intent to be proactive and take all actions permitted to be taken by a nonprofit corporation to achieve the foregoing purposes.

Key Personnel

Pam Whitten

Dr. Pam Whitten is a nationally recognized authority on telemedicine and communication with appointments to several appointments to several major universities she is currently serving as Professor and Assistant Dean, College of Communication Arts and Sciences at Michigan State University in East Lansing Michigan. With numerous publications and grants to her credit, one of her latest being a grant to Marquette General Hospital from the Office for the Advancement of Telehealth, Health Resources and Services Administration for a Telehealth Resource Center located in Marquette Michigan.

Beth Nagel

Ms. Nagel is the Manager for Health Information Technology for the Michigan Department of Community Health. In this role, she is responsible for coordination with the HIT Commission, oversight of the MiHIN process, coordination with the Health Information Security and Privacy Information Collaborative, Health Information Exchange Activity, and Medicaid Transformation Grant Activities.

George Boersma

As Director of the Office of Technology Partnerships for the Michigan Department of Information Technology, George is responsible for fostering partnerships with private and public entities to leverage technology and reduce costs. George collaborated with a multitude of statewide health care stakeholders to establish the Michigan Health Information Network (MiHIN). In addition to this, he is working with the Michigan Township Association, the Michigan Municipal League, local units of government, and the private sector to develop a roadmap for local governments to promote and increase broadband adoption rates in their area. With 38 years of successful professional experience in the private and public sector,

Government Technology Magazine recognized George as one of the " Top 25 Dreamers, Doers, and Drivers" of 2006..

Jeff Allison

Mr. Allison is the Engagement Manager at MPHI Interactive Solutions Group and has over twenty years in the health care market working as the provider, payer and consulting sides of the business, included in this is also ten years of systems and telecom project management experience and twelve years of non-system related project related experience.

Jeff Shaw

Mr. Shaw is a Project Manager at MPHI Interactive Solutions Group and former Manager of Technology for the MSU College of Law, with six years experience in network design maintenance and security. Having worked with LAN, WAN, Internet2, and NLAR on telecommunication projects involving voice, video and data.

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**D.
Prior Experience**

D. Prior Experience

The benefits that Michigan citizens now enjoy from telemedicine are hopefully just a small step toward what is yet to come. Telemedicine applications offer the promise of improved access to care and tremendous cost savings. Telemedicine can improve, and in some cases even save countless lives in Michigan by transcending barriers of time and space between health care providers and patients in need. By enhancing the efficiency and efficacy of health care delivery, telemedicine also can potentially mitigate the expanding economic burden of providing care to an aging population. As technology advances, the telemedicine applications of the future will undoubtedly offer additional benefits we have yet to imagine. Leadership in telemedicine must be viewed as an essential component of Michigan's vision of becoming a leader in technology. Therefore it is vital to our state, economically and socially, to promote policies that enhance the diffusion of telemedicine applications in Michigan.

Michigan's Previous Experience in Developing Telehealth Programs

Michigan's experience in telehealth and health information exchange is unique from other models throughout the nation. Systems have developed in a non-centralized, rural-initiated manner, with leadership from some of the industry's more influential leaders. Michigan is home to one of the nation's early telehealth leaders, internationally recognized telehealth researchers, and one of five Federally funded telehealth resource centers.

In the early 1970's the University of Michigan became active in the telehealth field through the work of Rashid Bashshur, PhD. As the Director of Telemedicine and Emeritus Professor of Health Management and Policy at the University of Michigan, Dr. Bashshur was a catalyst for the development and evaluation of telemedicine system. While at the National Academy of Sciences (Institute of Medicine), he was consultant to the Office of Economic Opportunity on the use of telecommunications to support rural health programs. Dr. Bashshur has served as senior consultant to numerous telemedicine projects, agencies and governments; is a past president of the American Telemedicine Association; and co-founded the Telemedicine and e-Health Journal, a multidisciplinary peer-reviewed journal.

The Michigan Department of Corrections perceived telemedicine's potential for cost savings and increased access to care in the early 1990s. Their current telemedicine network spans the entire state and is active in clinical applications for the state's prison population. Two of Michigan's most rural areas initiated telehealth networks in the early 1990s with the assistance of Federally grant monies. Both of these networks have thrived over the years, and are currently self-sustaining through membership-based business models:

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- **The Rural Emergency Medicine Education Consortium (REMEC)** Telehealth Network is a formal 501(C)(3) organization based at Munson Medical Center in Traverse City. The Network provides educational programming and administrative meeting support to 14 member organizations in the Northern Lower Peninsula. During 2006 REMEC coordinated 1,382 events, which represents over 4,000 hours of programming.

- **The Upper Peninsula Telehealth Network (UPTN)** is Michigan's most active telehealth network with 42 sites and over 8,000 connections during 2006. The three primary applications are clinical consults, educational programming and administrative meetings. The network logged over 1,700 patient encounters during 2006.

  The UPTN is based out of Marquette General Health System, an organization that has been acknowledged as having a successful telehealth model by the Telemedicine and e-Health Journal 9 (1) 41-48. The UPTN has also been recognized three times as a finalist for the American Telemedicine Association's Institutional President's Award.

Michigan is fortunate to have the active involvement of one the nation's foremost telehealth researchers, Pamela Whitten, PhD. Dr. Whitten is the Assistant Dean in the College of Communication Arts & Sciences and at Michigan State University, and a Senior Research Fellow for Michigan State's Institute of Health care Studies. Dr. Whitten's research focuses on the use of technology in health care with a specific interest in telehealth and its impact on the delivery of health care services and education. Prior to joining the faculty at Michigan State in 1998, Dr. Whitten ran the telemedicine program for the state of Kansas through the University of Kansas Medical Center. She is a past officer on the Board of Directors for the American Telemedicine Association.

Michigan's first state-supported telehealth endeavors began in 2000 with the availability of funding through the Michigan Rural Health Initiative. Two rounds of funding jump-started several telehealth networks around the state including applications in imaging, home care and conventional telehealth. Other networks pursued Federally grants and private monies to develop telehealth networks. These include the Southwest Telehealth Network based at Borgess Health Care in Kalamazoo, the Rural Telehealth and Community Education Network (RTCEN) operated by Central Michigan University in Mount Pleasant, Michigan State University College of Osteopathic Medicine, and the Michigan Stroke Network operated by the multi-hospital Trinity Health system.

As telehealth networks continued to develop within Michigan, initiatives to coordinate these networks also developed. The Michigan Center for Rural Health, under the direction of John Barnas, hosted several telehealth conferences. Dr. Pam Whitten initiated the Michigan State Telehealth Policy Group, an informal group that meets 3-4 times per year over video to discuss and take action to advance

telehealth in Michigan. This collaboration resulted in a report titled "Telehealth in Michigan: A Policy Report Addressing Legal and Regulatory Issues". Sally Davis, who initiated and continues to lead the Upper Peninsula Telehealth Network, currently heads this group.

In 2006 Dr. Whitten and Sally Davis, along with colleagues at Purdue University and Kansas University Medical School banded together to initiate the Midwest Alliance for Telehealth and Technology Resources (MATTeR) – one of five HRSA funded telehealth resource centers. MATTeR is dedicated to building sustainable telehealth programming to meet the needs of rural and underserved residents. Services are available across the nation, with an emphasis on programming in the partner states. Michigan initiatives include developing a state-wide telehealth system with Children's Special Health Care Services and expanding telehealth to Critical Access Hospitals and Federally Qualified Health Centers. Sally Davis is the Principal Investigator for MATTeR, and Pam Whitten is the lead researcher.

Development of HIE in Michigan

Michigan has also been active in the development of health information exchange. In Michigan's 2006 State of the State address, Governor Jennifer M. Granholm announced the launch of an initiative to create a statewide health information network. In April 2006, she convened a group of 300 stakeholders from health care, information technology, insurance, consumer protection and other sectors to help create an interoperable Michigan Health Information Network (MiHIN) that will enable the exchange of electronic medical records. The state's Community Health and Information Technology departments spearheaded the initiative, which resulted in a roadmap for successful implementation of Health Information Exchange throughout the state. The MiHIN roadmap, released in December 2006, articulates a path to develop a health information network connecting the State of Michigan, with an infrastructure and governance for long-term sustainability through public-private partnership. In the Northern Lower Peninsula, Munson Medical Center is developing a bar-coding application within an existing integrated health IT network that involves their regional medical center and Critical Access Hospitals. This project has received funding through the grant program Transforming Health care Quality through Information Technology from the Agency for Health care Research and Quality, Health Resources and Services Administration.

> *I have practiced Emergency Medicine for over twenty years, the last three have been in rural Michigan. People in rural areas do not have the luxury of having all their specialists in one community or one hospital. They must piece together their health care, often traveling to multiple facilities to see a variety of specialists.*
>
> *-Malinda H. Bell, MD FACEP-*

In the Upper Peninsula, health care organizations have collaborated for the past 10+ years on the development of health information exchange among disparate systems.

The vision is a regional clinical data repository and master patient index containing data such as laboratory observations from the 14 community hospitals and the regional referral center. The integrated data is managed and viewed with the UPCARE® EMR application, under development at Marquette General Health System. The clinical data repository, master patient index and the comprehensive set of patient data contained within will have a positive impact on health care delivery by providing timely access to data from multiple sources whenever or wherever health care practitioners require it to care for a patient. Development and implementation of system interfaces to the data reposition is funded in part by the same AHRQ grant that funds the Munson project.

Prior Experience - MPHI

Health Information Security and Privacy Collaborative (HISPC)

MPHI Provided project management, analysis, facilitation, coordination, and other services to assist the HISPC is organized as independent contracts with 33 states and Puerto Rico through a grant from DHHS/ARQH. ARQH contracted with RTI to organize the overall project, and RTI worked with the National Governors Association (NGA) to coordinate the statewide and territorial efforts.

As part of the HISPC project, MPHI complied with requirements to submit the appropriate audit statements in accordance with GAAS standards, to RTI, in order to ensure compliance and to "limit fraud, going concern uncertainties, financial statement misstatements and violations of contract and grant provisions".

The deliverables of the project included:

- An analysis of security and privacy practices as they relate to the project scenarios

- New processes (Solutions) are then developed for the policies and procedures that are determined to be barriers to interoperability

- Finally, implementation plans for each solution are proposed

Innovative approaches that enhance and support electronic health information exchange are also highlighted. In addition, Consumer reaction to proposed solutions will be gathered. Finally, the project participants meet and coordinate in regional meetings and, at the end of the project, nationally.

MiHIN *Conduit to Care* – Health Information Exchange

MPHI provided project management, meeting facilitation, analysis, report writing, and other services to assist the MiHIN Conduit to Care Roadmap. The MiHIN

Conduit to Care Roadmap articulated a path to develop a health information network connecting health care communities across the State of Michigan, with an infrastructure and governance model for long-term sustainability through public-private partnership.

- Final report of project recommendations provided to the Governor.

Medicaid HIPAA transactions rule, Privacy and Security implementation

MPHI provided project management, business process reengineering, system analysis, programming, and other services to assist the Michigan Medicaid program's implementation of HIPAA compliant electronic transactions and medical code sets. In support of the Privacy and Security rule implementation MPHI performed risk analysis, policy and procedure development, workforce training design, and compliance documentation

Health care provider outreach and education

On behalf of the Michigan Medicaid program conducted outreach and education campaigns on behalf of numerous issues and initiatives. MPHI uses multiple media and communication strategies, including print, direct mail, web-based, email based, and live events.

Quality Assurance and Financial Accountability

MPHI maintains a Quality Assurance staff and an IRB panel, to actively monitor all projects, making certain that MPHI projects comply with Federally and state regulations in areas of Human Subjects Research and Privacy.

Through its Finance and Contracts Office, housed in Central Administration, MPHI oversees all of the operations of the Institute. With two CPA's on staff, MPHI ensures that financial statements are prepared in accordance with *GAAS* requirements. In addition, MPHI is subject to a mandatory annual by an independent auditing firm, as well as audits four times per year based on requests from funders.

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E. Matching Funding Support

The following is a letter of support from the Michigan Department of Community Health committing HIT funding in support of this project as match to ensure this project moves forward. This letter and the full text from the department funding can be found in the appendix to this application.

STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

JANET OLSZEWSKI
DIRECTOR

April 20, 2007

Jeffrey Taylor, Ph.D.
Executive Director
Michigan Public Health Institute
2436 Woodlake Circle Drive, Suite 300
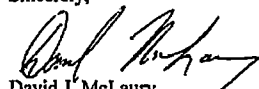Okemos, Michigan 48864

Dear Dr. Taylor:

I am writing to demonstrate the support for Michigan's application to the Federal Communications Commission (FCC) Rural Health Pilot Program to expand state and regional broadband networks and services in rural and underserved areas of Michigan.
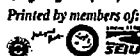
This letter is to confirm that the Michigan Department of Community Health in providing matching funding for Fiscal Year 2007 from Act No. 330, Public Acts of 2006, section 119, Health Information Technology Initiatives for $1,500,000 of the $9,500,000 line item, approved by the Governor August 10, 2006 (attached); and for Fiscal Year 2008 Community Health Executive Budget Bill, section 120, Health Information Technology Initiatives for $1,500,000 of the $10,000,000 line item (attached).

The work Michigan will be able to accomplish with the FCC Rural Health Pilot Program is extremely important and will have a major impact on the overall quality of life for its citizens in this state. We have been working to organize and prepare the state for this pilot program and we are ready to make excellent use of the FCC Rural Health Pilot Program award.

Sincerely,

David J. McLaury
Chief Deputy Director

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JENNIFER M. GRANHOLM
GOVERNOR

JANET OLSZEWSKI
DIRECTOR

April 20, 2007

Jeffrey Taylor, Ph.D.
Executive Director
Michigan Public Health Institute
2436 Woodlake Circle Drive, Suite 300
Okemos, Michigan 48864

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Sincerely,

David J. McLaury
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DCH 1272 (07/05) (W)

CMU

May 1, 2007

Dr. Jeffrey Taylor
Executive Director
Michigan Public Health Institute Central Administration
2436 Woodlake Circle Drive, Suite 300
Okemos, MI 48864

Dear Dr. Taylor:

I am writing to convey the full support of the Office of Information Technology at Central Michigan University for the State of Michigan's application for a Federal Communications Commission pilot project to expand state and regional broadband networks and services in rural underserved areas of Michigan.

Providing healthcare services via telemedicine offers many advantages. It can make specialty care more accessible to underserved rural and urban populations. Video consultations from a rural clinic to a specialist can alleviate prohibitive travel and associated costs for patients. Videoconferencing also opens up new possibilities for continuing education or training for isolated or rural health practitioners, who may not be able to leave a rural practice to take part in professional meetings or educational opportunities.

At CMU, we are fully cognizant of the potential of these technologies. In collaboration with the Merit organization, CMU is currently purchasing and installing fiber along the M-20 corridor between Mount Pleasant and Midland. Though this is admittedly a small step in any overall plan to "wire" Michigan, we are enthusiastic about the opportunities this will afford to CMU, as well as to other educational and non-profit entities in the mid-Michigan area.

We are excited about the leadership role that the State of Michigan is taking in HIE and are committed to supporting and participating in the collaborative efforts of MDCH and MDIT to further the overall goal of improved healthcare in Michigan.

Sincerely,

Roger Rehm
Vice President for Information Technology and Chief Information Officer
Central Michigan University

F.
Budget